



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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NPN POWER SILICON TRANSISTOR

Qualified per MIL-PRF-19500/526

Devices

2N3879

Qualified Level

JANTX
JANTXV

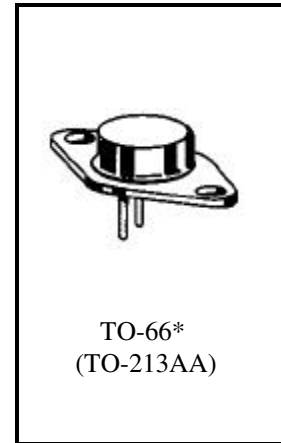
MAXIMUM RATINGS

Ratings	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	75	Vdc
Collector-Base Voltage	V_{CBO}	120	Vdc
Emitter-Base Voltage	V_{EBO}	7.0	Vdc
Base Current	I_B	5.0	Adc
Collector Current	I_C	7.0	Adc
Total Power Dissipation @ $T_C = 25^{\circ}\text{C}^{(1)}$	P_T	35	W
Operating & Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max.	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	5.0	$^{\circ}\text{C}/\text{W}$

1) Derate linearly 200 mW/ $^{\circ}\text{C}$ for $T_C > 25^{\circ}\text{C}$



*See Appendix A for Package Outline

ELECTRICAL CHARACTERISTICS ($T_C = 25^{\circ}\text{C}$ unless otherwise noted)

Characteristics	Symbol	Min.	Max.	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage $I_C = 200 \text{ mAdc}$	$V_{(BR)CEO}$	75		Vdc
Collector-Emitter Cutoff Current $V_{CE} = 50 \text{ Vdc}$	I_{CEO}		5.0	Vdc
Collector-Emitter Cutoff Current $V_{CE} = 100 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}$	I_{CEX}		4.0	mAdc
Collector-Base Cutoff Current $V_{CB} = 120 \text{ Vdc}$	I_{CBO}		25	mAdc
Emitter-Base Cutoff Current $V_{EB} = 7.0 \text{ Vdc}$	I_{EBO}		10	mAdc

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
ON CHARACTERISTICS ⁽²⁾				
Forward-Current Transfer Ratio $I_C = 0.5 \text{ Adc}, V_{CE} = 5.0 \text{ Vdc}$ $I_C = 4.0 \text{ Adc}, V_{CE} = 5.0 \text{ Vdc}$ $I_C = 4.0 \text{ Adc}, V_{CE} = 2.0 \text{ Vdc}$	h_{FE}	40 20 12	80 100	
Collector-Emitter Saturation Voltage $I_C = 4.0 \text{ Adc}, I_B = 0.4 \text{ Adc}$	$V_{CE(sat)}$		1.2	Vdc
Base-Emitter Saturation Voltage $I_C = 4.0 \text{ Adc}, I_B = 0.4 \text{ Adc}$	$V_{BE(sat)}$		2.0	Vdc
Base-Emitter Voltage $I_C = 4.0 \text{ Adc}, V_{CE} = 2.0 \text{ Vdc}$	$V_{BE(on)}$		1.8	Vdc

DYNAMIC CHARACTERISTICS

Magnitude of Common Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio $I_C = 500 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}, f = 10 \text{ MHz}$	$ h_{fe} $	4.0	20	
Output Capacitance $V_{CB} = 10 \text{ Vdc}, I_E = 0, 0.1 \text{ MHz} \leq f \leq 1.0 \text{ MHz}$	C_{obo}		175	pF

SWITCHING CHARACTERISTICS

Turn-On Time $V_{CC} = 30 \text{ Vdc}; I_C = 4.0 \text{ Adc}; I_B = 0.4 \text{ Adc}$	t_{on}		0.44	μs
Turn-Off Time $V_{CC} = 30 \text{ Vdc}; I_C = 4.0 \text{ Adc}; I_B = -I_B = 0.4 \text{ Adc}$	t_{off}		1.2	μs

SAFE OPERATING AREA

DC Tests $T_C = +25^\circ\text{C}, 1 \text{ Cycle}, t = 1.0 \text{ s}$ Test 1 $V_{CE} = 5.0 \text{ Vdc}, I_C = 7.0 \text{ Adc}$ Test 2 $V_{CE} = 28 \text{ Vdc}, I_C = 1.25 \text{ Adc}$ Test 3 $V_{CE} = 40 \text{ Vdc}, I_C = 500 \text{ mAdc}$ Test 4 $V_{CE} = 75 \text{ Vdc}, I_C = 100 \text{ mAdc}$
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(2) Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$.